

## REMARKS

### Summary of Amendments

After the foregoing amendment, the application includes claims 1-13, which are unchanged. Claims 14-26 are cancelled, without prejudice to filing a divisional application thereto. Claims 1-13 were elected with traverse in response to a Restriction Requirement. Reexamination and reconsideration of the application as amended, are requested.

### Prior Art Rejection

Claims 1, 7, 8, 10 and 10 are rejected under 35 U.S.C. §103(a) as being unpatentable over EP193440 to Otaki et al. (the Otaki reference) in view of Japanese published patent application 03-63199 to Nakanishi (the Nakanishi JP reference). The Otaki reference is cited as disclosing a method for decorating an article comprising printing a four-color image onto water soluble polymer film with solvent based inks, liquefying the solvent based ink image by way of a solvent activator applied thereto, placing the printed water soluble polymer film carrying the solvent based ink image thereon onto the surface of a water bath whereby the water soluble film is at least partially dissolved, and pressing and submerging the article to be decorated against the liquefied solvent based ink image to transfer the liquefied solvent based ink image to the surface of the article. The Examiner acknowledges that the Otaki reference does not disclose providing a solvent based ink image from a digital image file, but takes the position that it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the printed ink image by way of a digital image file based on the Nakanishi JP reference. The Nakanishi JP reference is cited as disclosing a method for transferring solvent based ink images from a water soluble film onto an article surface by way of float transfer, and specifically is cited as disclosing

that the printed image can be composed digitally through the use of a computer based on the presence of a computer in the drawings accompanying the Nakanishi JP reference. This rejection as applied to independent claim 1 of this application, is respectfully traversed.

Description of Claims and Cited References

Claim 1 of the present application describes a method for high definition printing on an article comprising submerging the article in water against a liquefied solvent based ink image to transfer the liquefied solvent based ink image to a surface of the article and four-color process printing an image from a digital image file onto a water soluble polymer film with solvent based ink to form the water soluble film. The combination of dip transfer printing with digital imagery and four-color process printing allows one to take advantage of high definition imagery in printing irregular objects. It is the combination of digital imagery and four-color process printing that allows the user to properly replicate the high definition image in all its variety of colors, shades, and depth. The result is a surprising replication of the high definition image on an irregular article heretofore unachieved by the prior art.

In the cited references, dip transfer printing is referred to as liquid pressure transfer printing. The cited Otaki reference discloses liquid pressure transfer printing, but the focus is on weather resistant alkyd resin ink for decorating items such as car bodies [0001]. The Otaki reference discloses the use of four-color process printing, but not any use of digital imagery or high definition image printing [0006, 0023]. An object of the invention described in the Otaki reference is to transfer a weather resistant alkyd resin image with an ink design to reduce disarrangement and blurring of the printed pattern during transfer [0019, 0012].

The Otaki reference discloses an ink formula for liquid pressure transfer printing designed to be weatherproof, but also to be activated without excess activator so that the transferred pattern is not blurred or disarranged. According to the Otaki reference, these weather resistant inks tend to be difficult to activate and are thus problematic to print with liquid pressure transfer printing without disarrangement or blurring of images [0034-0036]. The Otaki reference describes its invention as suitable for printing articles for use outdoors, such as car bodies, bonnets, or fenders [0097,0098].

The Nakanishi JP reference discloses use of a computer in liquid pressure transfer printing. This is illustrated in the drawings accompanying the Nakanishi JP reference. Applicants have obtained a full English translation of the Nakanishi JP reference and submit a copy herewith. According to the English translation, the Nakanishi JP reference discloses a method of liquid pressure transfer printing wherein the images are first printed on a water soluble film using electrophotography. The images formed with toner, not inks. The reference teaches not using multiple color printing with inks because too many ink drying steps are involved. See translation, page 5, line 1. The form of electrophotography can be laser printing. A computer 9 (illustrated in Fig. 5) is used to print the image with a laser printer. There is no disclosure or suggestion of high definition printing.

#### Lack of Prima Facie Obviousness

According to M.P.E.P. §2142, three basic criteria must be met to establish a *prima facie* case obviousness. First, there must be some suggestion or modification, either in the references themselves or the knowledge generally available to one of ordinary skill in the art to modify the

reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claim combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants' disclosure. Cite *In re Vaeck*, 947 F.2d 488 20 U.S.P.Q. F.2d 1438 (Fed. Cir. 1991).

The basic criteria of *prima facie* obviousness are not met here. First, there is no evidence in the cited prior art of any motivation for one of ordinary skill in the art to have combined a four-color process printing disclosed in the Otaki reference and the use of a digital image in electrophotographic printing as disclosed in the Nakanishi JP reference. Neither of these references suggests any form of high definition image printing as described in Applicants' independent claim 1. The Otaki reference is concerned with weather resistant printed images. The difficulty, described in the Otaki reference, of activating and printing with the weather resistant inks disclosed therein indicates that such inks are not suited for high definition printing. This suggests that one of ordinary skill in the art should not look to the Otaki reference for guidance in high definition printing using digital imagery. The end uses disclosed in the Otaki reference, such as printing on car bodies, also do not suggest using high definition digital imagery. The use of digital imagery with inks that are difficult to activate would not likely result in a high definition image transfer. The Nakanishi JP reference only teaches the use of digital imagery to produce a laser printed electrophotographic image using toner. It does not suggest printing a high definition image and teaches not to use multiple color printing with inks. Without any such motivation to combine four-color process printing and digital imagery to print

a high definition image on an article found in either of the references cited against independent claim 1, there is no *prima facie* case of obviousness.

There is also not a reasonable expectation of success in printing a high definition image on an article in combining the digital imagery of the Nakanishi JP reference with the four-color process printing of the Otaki reference because neither reference suggests printing high definition images, the Otaki reference teaches use of inks that would likely not be suitable for high definition printing and the Nakanishi JP reference teaches electrophotographic printing with toner.

Lastly, the Otaki reference and the Nakanishi JP reference combined still do not suggest all the claim limitations of independent claim 1 of this application. Neither reference discloses or suggests high definition printing on an article.

Accordingly, the Otaki reference and the Nakanishi JP reference fail to establish a *prima facie* case of obviousness because of a lack of suggestion or motivation to combine four-color process printing and digital imagery to produce a high definition printed image via liquid pressure transfer printing, they do not provide a reasonable expectation of success in achieving printing of a high definition on an article using liquid pressure transfer printing, and neither reference teaches or suggests high definition printing at all.

Cited reference U.S. Patent 5,695,587 issued to Dumoux (the Dumoux patent) discloses liquid pressure transfer printing including the use of digital images in printing the image on the water soluble film, but does not motivate or suggest to one of ordinary skill in the art to apply the use of digital imagery with four-color process printing. The focus of the Dumoux patent is a transfer film that is printed with not only a decoration layer containing an image, but also an

undercoat layer and a finish coat layer. There is no suggestion in the Dumoux patent of printing a high definition image using liquid pressure transfer printing.

Secondary Considerations

A fourth factor that must be considered in evaluating nonobviousness is a number of "secondary considerations." *Graham v. John Deere*, 383 US1, 17, 86 Supreme Court 684, 694, 148 USPQ 459, 467 (1966); *Simmons Fastener Corp. v. Illinois Tool Works*, 739 F.2d 1573, 1575, 22 USPQ 744, 746 (Fed. Cir. 1984). Such secondary considerations include, but are not limited to, lack of appreciation in the prior art of the problem identified and addressed by an inventor in inventing the claimed invention. *Graham v. John Deere* at 148 USPQ 467.

Applicants submit for consideration that the prior art does not appreciate the problem identified by the inventors of the subject matter described in amended claim 1. The cited prior art does not appreciate that the problem in producing a high definition image on an article using liquid pressure transfer printing is that the variety of colors and shades and depth in a high definition digital image can not be readily replicated with match color printing as has been the prior art practice. It is the combination of the four-color process printing and high definition digital imagery that allows transfer of the high definition image onto an article using liquid pressure transfer printing. There is no appreciation of this problem in any of the cited references and this lack of appreciation is evidence the subject matter in claim 1 would not have been obvious to one of ordinary skill in the art at the time the invention was made.

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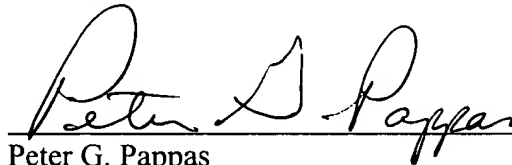
Title: Method for High Definition Dip Transfer Printing and Article Made According to Method  
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Conclusion

Applicants respectfully submit that the rejection of independent claim 1 is inappropriate due the lack of a *prima facie* case of obviousness and should be removed. Applicants further submit that even if a establish a *prima facie* case of obviousness is made, such rejection is overcome by the secondary consideration explained above.

The foregoing is submitted as a full and complete response for the referenced application and allowance of all claims is respectfully requested. If there are any issues which can be resolved by a telephone conference or an Examiner's Amendment, the Examiner is invited to call the undersigned attorney at (404) 853-8064.

Respectfully submitted,

A handwritten signature in cursive script, reading "Peter G. Pappas", written over a horizontal line.

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